

[54] **PROCESS FOR MANUFACTURING GASES
RICH IN METHANE**

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[58] **Field of Search**..... 260/449 M, 449 S, 449.6 S

[56] **References Cited**

UNITED STATES PATENTS

2,433,255 12/1947 Atwell..... 260/449 L
2,692,274 10/1954 Kolbel et al..... 260/449 L
2,775,512 2/1972 Leithanger et al. 260/449 S

3,511,624 5/1970 Humphries et al..... 260/449 M
3,625,665 12/1971 Thompson..... 260/449 M
3,642,460 2/1972 Leithanser..... 260/449 M

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[57] **ABSTRACT**

A process for manufacturing gases rich in methane, wherein a mixture of feed hydrocarbon containing at least two carbon atoms in the molecule and steam is subjected to adiabatic low temperature steam reforming reaction to form a reformed gas substantially comprising methane, hydrogen, carbon monoxide, carbon dioxide and steam. Then the reformed gas is divided into two streams and one of them is introduced in the first stage of plural methanization reaction zones arranged in series at a temperature of 200° – 550°C under a pressure of 0 – 150 Kg/cm²G, while the other is cooled, and after removing the condensed water is introduced in the second and, if present, subsequent methanization reaction zones, to subject the reformed gas to adiabatic methanization reaction.

6 Claims, 2 Drawing Figures